Designing a Robot Chassis

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TOOLS:

- Printer (1)
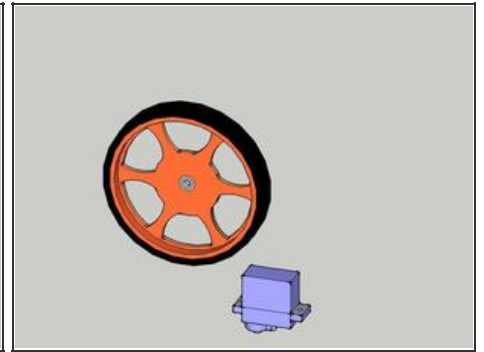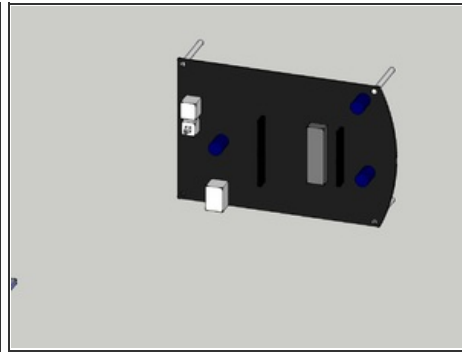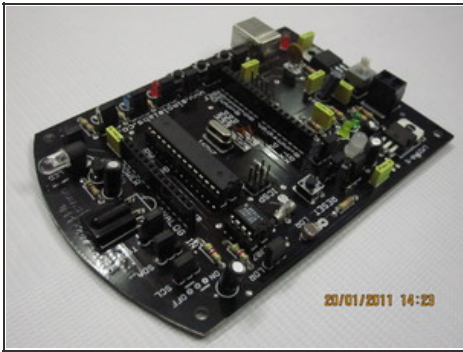- Rotary tool with cut-off wheel (1)
- scale or vernier calipers (1)

PARTS:

- acrylic sheet 2mm (1)
- Glue (1)

SUMMARY

We will be using freely available tools like Google SketchUp to design and finally fabricate a chassis for a robot.

Step 1 — Create parts in SketchUp.

- Use a a scale or, preferably, a vernier caliper to measure the parts you already have, then recreate them in SketchUp.
- I used an Arduino clone (induinoX).
- When creating the board in SketchUp create only the big parts that stick out to save time.
- Create the chassis in the shape you prefer.
- You can create slots by subtracting the slot's shape from the chassis.
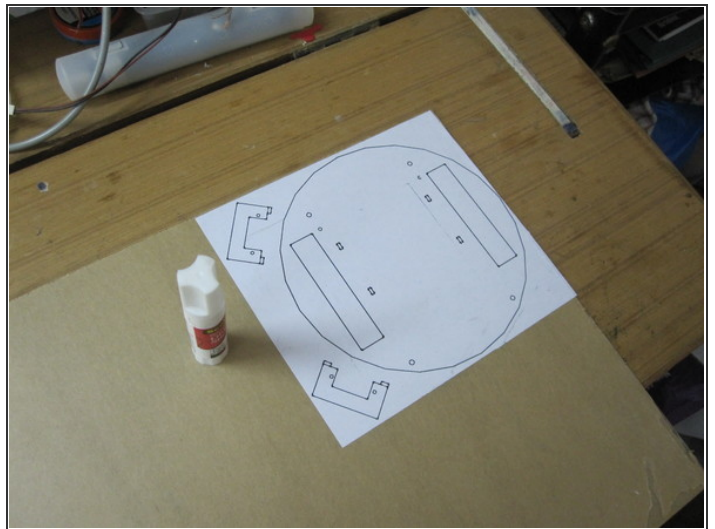
Step 2 — Google SketchUp assembly
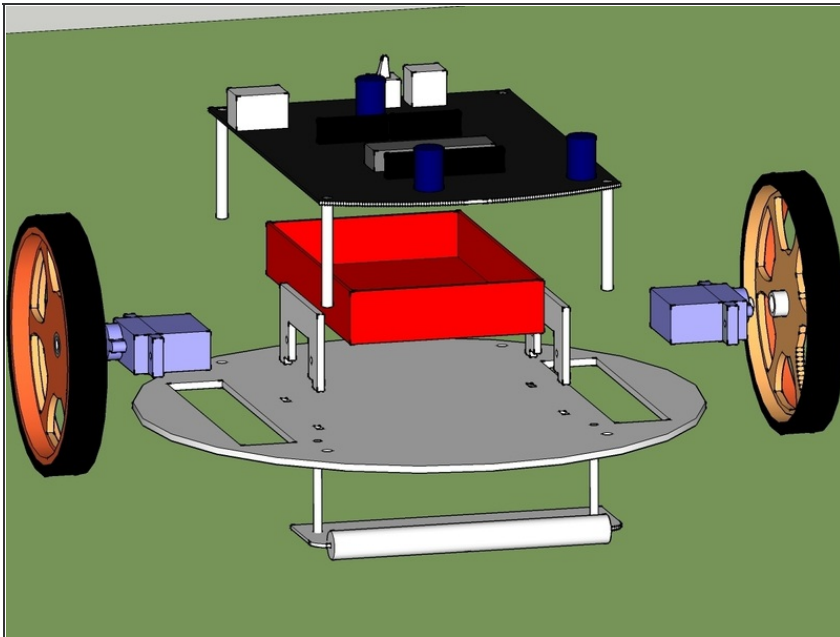
- Assemble the parts in Google SketchUp.
- See if all the parts fit together.

Step 3 — Print the chassis
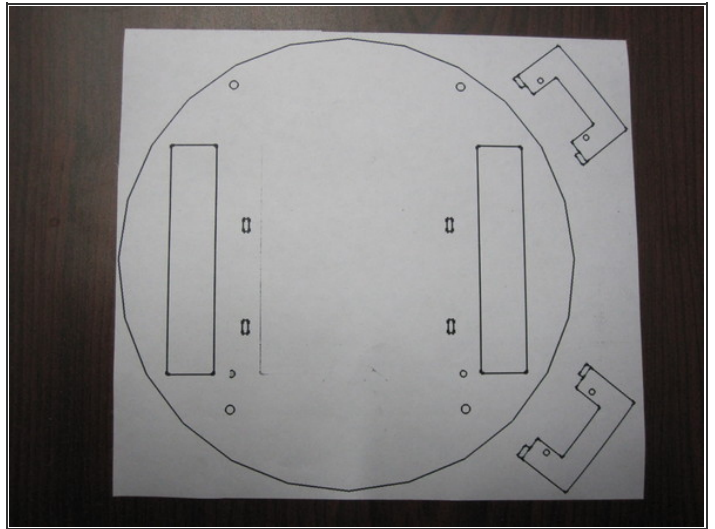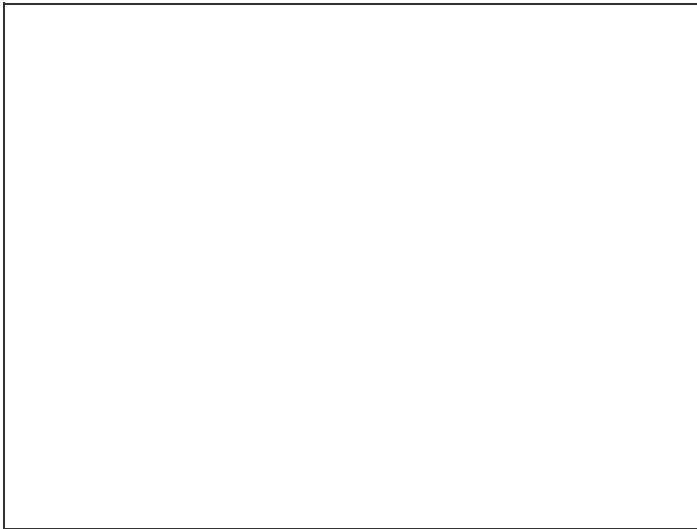
- Print the outline of the parts for the chassis.

- Use the option that keeps the size of the printout to the actual size.

- Check the measurements after printing to be double-sure.
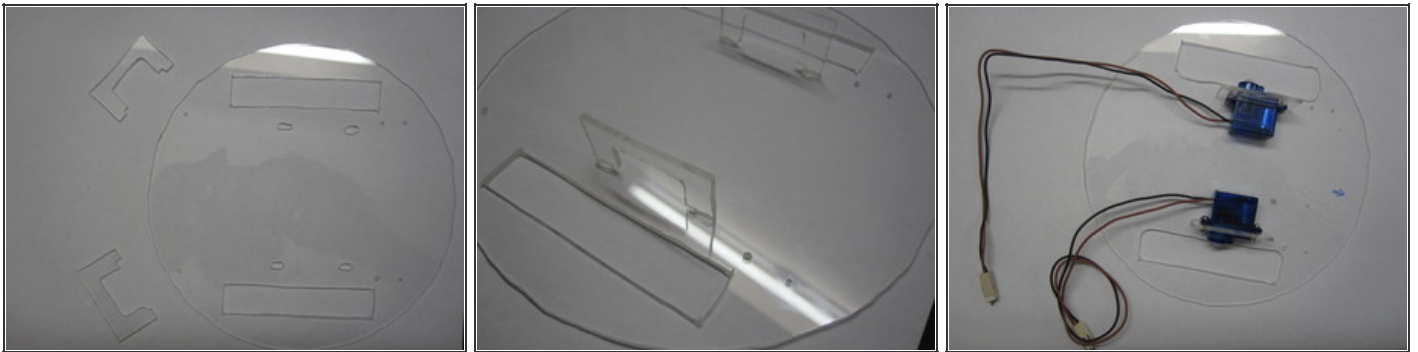
Step 4 — Apply the template

- Paste the printout on the material you want to cut the chassis from.

- I used 2mm acrylic sheet.

- Take care when pasting the printout that there are no creases in it.
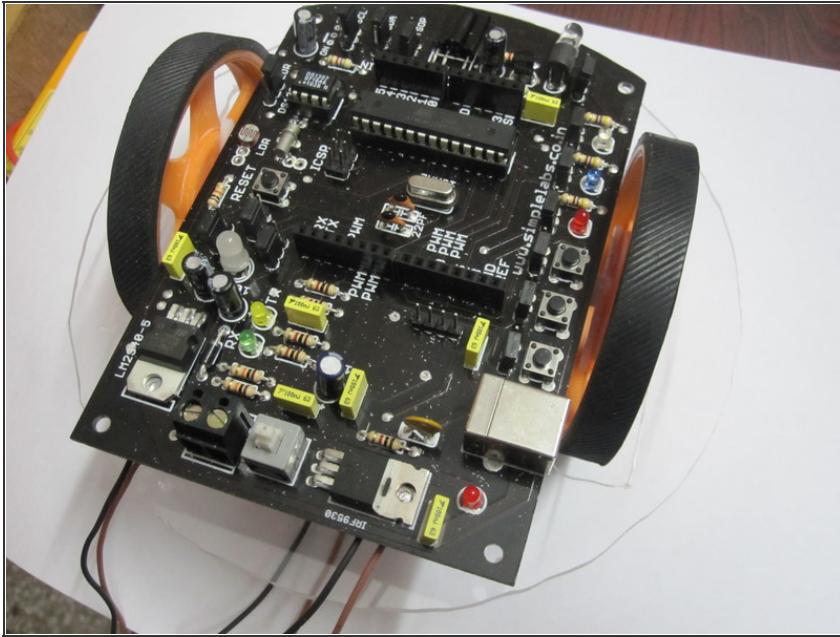
Step 5 — Cut out the shapes
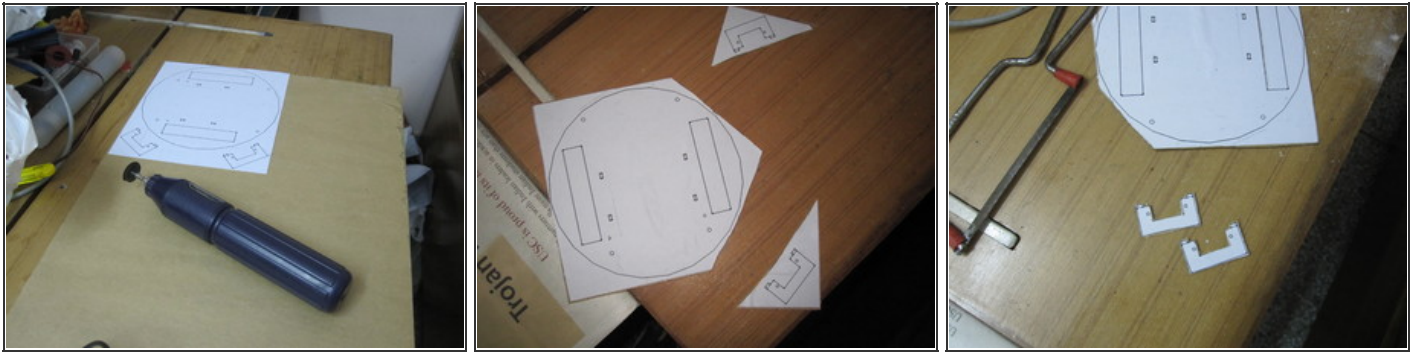
- Use a rotary tool or a hacksaw to cut out your shapes.

Step 6 — Glue the parts

- Use super glue to stick the parts together.
- I made the parts like jigsaw pieces so they meshed together to give more strength.
- Screw in the other parts like motors, caster wheels, etc.

Step 7

- Finished chassis with the InduinoX board.

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